

Aircraft Survivability Equipment Trainers (ASET) IV Replacement

What is it?

ASET IV, also designated as the AN/TPQ-45, Electronic Warfare Training Set, is a group of ground-based air defense threat emitters that create an electronic warfare environment for training. It provides tactical training for aviation crews against anti-aircraft artillery (AAA) and surface-to-air missile (SAM) threats. Initially developed as an ASE test device, the TPQ-45 was modified from 1989 through 1994 to meet the collective ASE training requirements established in the Training Annex of the Aircraft Survivability Required Operational Capability document of 1984. From 1995 through 2000, the TPQ-45 was fielded to the Maneuver Combat Training Centers (MCTCs) and select aviation Home Station Training (HST) sites.

What has Army Aviation done?

Due to funding, fielding and fidelity issues, an Obsolescence and Request for Disposal Directive was issued by then U.S. Army Aviation Warfighting Center (USAAWC) for this device in November 2005. TRADOC (Combined Arms Center-Training (CAC-T)) concurrence was given with the caveat that the system would be replaced within two years. Funding was ended in November 2007. In April of 2006, then commanding general of USAAWC, Brig. Gen. E.J. Sinclair, signed a memorandum titled "*New Collective Training Equipment Requirements*" that outlined future Live ASE training requirements as:

- 116 man-portable IR (Common Missile Warning System (CMWS)) Threat Simulators for MCTC and HST;
- 56 man-portable Radar Missile (Radar Warning Receivers (RWRs)) Threat Simulators for HST;
- 18 full-size, Mobile, Self-Propelled, Surface-to-Air-Missile (SAM) replicas for MCTCs; and
- 18 full-size, Mobile, Self-Propelled, Anti-Aircraft Artillery (AAA) replicas for MCTCs.

The memorandum was submitted to the Program Executive Office (PEO) - Intelligence, Electronic Warfare, Sensors (PEO-IEWS) (as the historical material developer of the TPQ-45 system program). Due to lack of funding and changes in training strategies at the MCTCs from Major Conflict Operations (MCO) to Military Readiness Exercises/Current Operational Environment training, no efforts were conducted toward its development except for a limited effort at fielding the man-portable IR Threat Simulator requirement, now known as the Man-Portable ASE System Trainer (MAST). The MAST device is currently going through Source Selection and is expected to start very limited fielding at the end of 2010.

DOTD has since adjusted the required training device quantities due to an approved updated OEMP, updated "ONS"s, Permanent Install vs. Army Force Generation (ARFORGEN) fielding strategy, accounting for an expected Combat Aviation Brigade (CAB) move to Fort Bliss, and adding the Fixed Wing Army Aviation Training Site (FWAATS) into the requirement:

- 120 man-portable IR (CMWS) Threat Simulators for MCTC (76) and HST (44);
- Six man-portable Directed Energy (LASER) (AVR-2) Threat Simulators for MCTC;
- 44 man-portable Radar Missile (RWRs) Threat Simulators for HST;

- 15 full-size, Mobile, Self Propelled, Surface to Air Missile (SAM)/Anti-Aircraft Artillery (AAA) Replicas (2S6 TUNGUSKA) for MCTCs; and
- Nine full-size, Mobile, Self Propelled, Early Warning Search Radar Replicas (Dog-Ear Command and Control Vehicles) for MCTCs.

In May of 2008, Gen. George Casey, Chief of Staff of the Army, directed U.S. Army Training and Doctrine Command (TRADOC) to re-insert High Intensity Conflict (HIC) / Major Conflict Operations (MCO) vignettes back into training conducted by the MCTCs with a target date of FY 2010. Replacement of the TPQ-45 (as the replicated enemy air defense system) was briefed to the Robert Gates, Secretary of Defense, by the TRADOC Commanding General as the No. 3 priority on his list of issues keeping the MCTCs from conducting MCO training.

In August 2008, action officers from DOTD, PD-ASE, TRADOC G2-OPFOR, TRADOC CTC-D, Army Training Support Center (ATSC) and TRADOC Capabilities Manager-Live (TCM-Live) met to identify standing requirements and formulate a path forward. CTC-D was very forceful in their assertion that Fort Rucker is held as the responsible proponent for this device due to Sinclair's ordering the disposal directive of the TPQ-45.

In December 2008, DOTD hosted a CDD summit to begin the formal requirements process. This three-day event was held with all key stakeholders and with support from Directorate of Simulations, and the Concepts and Requirements Directorate. However, also in that same month, a new Department of Defense Instruction (DODI) 5000.02 was issued that stated that all projects require a mandatory Major Design Decision (MDD) before entry at any milestone in the acquisition process. It was also discovered that the new CDD format required information that could only be gathered from conducting formal pre-Milestone (MS) A events such as the Material Solutions Analysis (MSA) and the Analysis of Alternatives (AoA).

In February 2009, the DOTD action officer began steps to formally request that the PEO-IEWS, Brig. Gen. Thomas Cole, direct PD-ASE to conduct the MDD and MSA. Col. Kennedy Jenkins, PD-ASE, requested validation of the requirement by HQDA-G3 and a formal Pre-MS A decision by the Army Acquisition Executive (AAE) as to who owns the material development responsibilities for this non-system training requirement, PEO-IEWS or PEO-Simulation, Training and Instrumentation (STRI).

In August 2009, the DOTD action officer briefed PEO-STRI and key stakeholders on the status of the replacement for TPQ-45. The need for Fort Rucker to develop a requirements document was identified.

What continued efforts does Army Aviation have planned for the future?

In September 2009, per the guidance from ARCIC, a training requirement for ASET IV was written into the CDD for HFDS. These efforts were coordinated with the TRADOC CTC-D, TRADOC G2-OPFOR, and CRD. DOTD continues to coordinate with CRD and the Directorate of Simulation (DOS) to develop the required documents.

Why is this important to the Army and Army Aviation?

In February 2009, USAACE CG Maj. Gen. James O. Barclay III, signed the Army Aviation Aircraft Survivability Equipment Training Strategy. This strategy calls for

individual, crew and collective ASE training against AAA and SAM threats. Without a replacement for the TPQ-45, Army Aviation is unable to meet the requirement that meets the direction for ASE training that has been provided by the Chief of Staff of the Army and the USAACE CG.

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